COMBATING TERRORISM TECHNOLOGY SUPPORT OFFICE TECHNICAL SUPPORT WORKING GROUP (TSWG)

BROAD AGENCY ANNOUNCEMENT (BAA) W91CRB-06-T-0032

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Due Date for Receipt of Phase 1 Quad Charts:

No Later Than April 3, 2006

CB - Chemical, Biological, Radiological, and Nuclear Countermeasures
ED - Explosives Detection
IP - Infrastructure Protection
IS - Investigative Support and Forensics
PS - Physical Security

All submittals are due by 1600; 4:00 p.m. Eastern Time (ET) on the above date

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March 3, 2006

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1. INTRODUCTION.

This is a Combating Terrorism Technology Support Office (CTTSO) Technical Support Working Group (TSWG) Broad Agency Announcement (BAA) issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), to provide for the competitive selection of research proposals. Contracts based on responses to this BAA are considered to be the result of full and open competition and in full compliance with the provisions of Public Law (PL) 98-369, "The Competition in Contracting Act of 1984." Awards for submittals under this BAA are planned in Fiscal Year (FY) 2007; however, some awards could be in late FY 2006. Funds may not be available for all requirements under this BAA. No contract awards will be made until appropriated funds are available from which payment for contract purposes can be made.

1.1. Approach.

A three-phased proposal selection process will be employed for this solicitation to minimize cost and effort of prospective offerors. Phase 1 will consist of the solicitation, receipt, and evaluation of a one-page Quad Chart. Phase 2 will consist of the solicitation, receipt, and evaluation of a 12-page White Paper and applies to only those submissions that have been accepted in Phase 1. Phase 3 will consist of the solicitation, receipt, and evaluation of a full proposal (not to exceed 50 pages) and applies to only those submissions that have been accepted in Phase 2. Based on the priority of critical requirements and availability of funding, Phase 1 submissions can be selected for Phase 3 submittal of a full proposal without a Phase 2 submission.

1.2. HBCU/MI and Small Business Set Aside.

The Government encourages nonprofit organizations, educational institutions, small businesses, small disadvantaged business (SDB) concerns, Historically Black Colleges and Universities (HBCU), Minority Institutions (MI) (HBCU/MIs), women-owned businesses, and Historically Underutilized Business (HUB) zone enterprises as well as large businesses and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set-aside for these special entities because of the impracticality of reserving discrete or severable areas of research and development in any specific requirement area. A goal of 2.5% of total dollars awarded will be considered for HBCU/MI and a goal of 2.5% of total dollars awarded will be considered for small businesses for a total goal of 5%. The final determination will be made based on the individual technical merits of the proposal and budget constraints within the mission priorities. To ensure full consideration in these programs, registration in the BAA Information Delivery System (BIDS), described later in this document, requires the appropriate business type selection as well as accurate and up-to-date information.

1.3. Limitation of Funds.

The Government intends to incrementally fund contracts awarded from this BAA as provided by FAR 52.232-22, "Limitation of Funds." Most contracts awarded are anticipated to be from 6 to 24 months in duration. To facilitate incremental funding, submissions shall include the cost and schedule by a task-phased structure with clear exit criteria, and shall be inclusive of all work to complete the effort including any options. It is anticipated that the entire effort be negotiated with the initial contract award.

1.4. Technical Evaluation Support.

It is the intent of this office to use contractor support personnel in the review, evaluation, and administration of all submittals for this BAA. All individuals in this category that will have access to any proprietary data shall certify that they will not disclose any information pertaining to this solicitation including any submittal, the identity of any submitters or any other information relative to this BAA, and shall certify that they have no financial interest in any submissions evaluated. Submission of information in response to this BAA constitutes permission to disclose information to certified evaluators under these conditions.

1.5. BAA Package Download.
This BAA Package can be downloaded electronically in its entirety from **www.bids.tswg.gov** under **Download BAAs.** Registration is not required to download the BAA package; however, a BIDS registration is required to upload a response to the BAA.

1.6. BAA Contractual and Technical Questions.
All contractual and technical questions regarding this BAA must be directed to the Contracting Officer, 06-T-0032@tswg.gov. Contractual questions and answers will be posted periodically under Frequently Asked Questions (**FAQs)** on the BIDS website. TSWG staff will not acknowledge, forward or respond to any inquiries concerning the BAA except as received from and directed by the Contracting Officer.

1.7. BIDS Help Requests.
For help with BIDS, submit questions to the BIDS administrators at bidshelp@tswg.gov or by using the **Help Request** link located on the BIDS Homepage. Include a valid email address and a detailed description of the question or concern in the comments text block. Be sure to include the BIDS User Name.

1.8. BIDS Frequently Asked Questions (FAQs).
FAQs are a list of questions for general and specific topics including those forwarded to the Contracting Officer for a BAA. Offerors are encouraged to periodically review the **FAQs** located at www.bids.tswg.gov.

NOTE: Persons submitting proposals are advised that only the Contracting Officer can obligate the Government to any agreement involving expenditure of Government funds.

2. GENERAL INFORMATION.

This section includes information applicable to all contracts awarded under this BAA.

2.1. Eligibility.
To be eligible for contract award, an offeror must meet certain minimum standards pertaining to financial solvency and resources, ability to comply with the performance schedule, prior record of performance, integrity, organization, experience, operational controls, technical skills, facilities, and equipment. See FAR 9.104. Additionally, all offerors must be registered in the Central Contractor Registration (CCR) database, website www.ccr.gov, as indicated in Defense Federal Acquisition Regulation Supplement (DFARS) 204.7300. Contractors must complete Online Representation and Certifications (ORCA) at www.bpn.gov/orca. These and other helpful links are also provided on the BIDS Homepage.

2.2. Procurement Integrity, Standards of Conduct, Ethical Considerations.
Certain post-employment restrictions on former federal officers and employees can exist, including special Government employees (Section 207 of Title 18, United States Code (U.S.C.)). If a prospective offeror believes that a conflict of interest exists, the offeror should make this known to the issuing office's Contracting Officer for resolution before time and effort is expended in preparing a proposal.

2.3. Definitions.

2.3.1. Small Business Concern.
A concern that is independently owned and operated; is not dominant in the field of operation in which it is bidding on Government contracts; and meets the size standards in FAR 19.102.

2.3.2. Small Disadvantaged Business Concern.
"Small disadvantaged business concern" as used in FAR Part 19 (except for FAR Sections 52.212-3(c)(4) and 52.219-1(b)(2) for general statistical purposes and 52.212-3(c)(9)(ii), 52.219-22(b)(2), and 52.219-23(a) for joint ventures under the price evaluation adjustment for small disadvantaged business (SDB) concerns, means an offeror that represents, as part of its offer, that it is a small business under the size standard applicable to the acquisition; and either:
(1) It has received certification as a small disadvantaged business concern consistent with 13 C.F.R. part 124, subpart B; and
(i) No material change in disadvantaged ownership and control has occurred since its certification;
(ii) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 C.F.R. 124.104(c)(2); and
(iii) It is identified, on the date of its representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (SBA); or
(2) For a prime contractor, it has submitted a completed application to the SBA, or a private certifier, to be certified as a small disadvantaged business concern in accordance with 13 C.F.R. part 124, subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since it submitted its application. In this case, a contractor must receive certification as a SDB by the SBA prior to contract award.

2.3.3. North American Industry Classification System.
Establishments that specialize in **performing** Professional, Scientific and Technical Activities for others are coded 541710 under the North American Industry Classification System (NAICS). The small business size standard for Classification 541710 is 500 employees.

2.4. Restrictive Markings on Proposals.
All proposals should clearly indicate content disclosure limitations. Submittals can be marked as "Proprietary" or words to that effect; however, markings such as "Company Confidential" or other phrases that could be confused with national security classifications shall not be used. All paragraphs that contain

proprietary information must be clearly marked.

2.5. Submission Handling/Rights in Technical Data and Computer Software/Patent Rights.

2.5.1. Procurement Integrity.

The Government intends to comply with FAR 3.104 in its treatment of information submitted in response to this BAA solicitation and marked with the individual or company's legend.

2.5.2. Rights in Technical Data and Computer Software.

Rights in technical data, and computer software and software documentation provided in the proposal are treated in accordance with the DFARS 252.227-7016, *Rights in Bid and Proposal Information*. Rights in technical data, and computer software and computer software documentation in the resultant contract shall be in accordance with DFARS 252.227-7013 (regarding technical data) and DFARS 252.227-7014 (regarding computer software and software documentation). Both clauses (DFARS 252.227-7013 and –7014) will be included in any non-commercial contract exceeding the simplified acquisition threshold. Table 1 contains related clauses to be included in the contract.

Table 1. Contract Clauses

DFARS	Title
252.227-7013	Rights in Technical Data – Non-commercial Items
252.227-7014	Rights in Non-commercial Computer Software and Non-commercial Computer Software Documentation
252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions
252.227-7019	Validation of Asserted Restrictions - Computer Software
252.227-7025	Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends
252.227-7027	Deferred Ordering of Technical Data or Computer Software
252.227-7028	Technical Data or Computer Software Previously Delivered to the Government
252.227-7030	Technical Data - Withholding of Payment
252.227-7037	Validation of Restrictive Markings on Technical Data

2.5.3. Patents.

Patents in existence and patent applications pending at the time of the proposal that relate to the proposed effort shall be identified in the White Paper and Full Proposal submittal in accordance with the clauses above.

2.5.4. Submission Information and FOIA.

Records or data bearing a restrictive legend can be included in the proposal. However, the offeror is cautioned that portions of the proposal are subject to release under the terms of the Freedom of Information Act (FOIA), 5 U.S.C. 552, as amended. In accordance with FOIA regulations, the offeror will be afforded the opportunity to comment on, or object to, the release of proposal information.

2.6. Product and Deliverable Requirements.

The number, types, and preparation instructions for products and deliverables shall be specified in the contract. Minimum report requirements include **Monthly Status Reports** (MSRs) that document program and financial status, and a **Final Technical Report** that summarizes the project and associated tasks at the conclusion of each contract, even if the research is to be continued under a follow-on contract. All proposals shall include cost data for the minimum report requirements, and additional products and deliverables in performance of the effort proposed. Additional products and deliverables include prototype hardware, software or systems, test plans, test and technical reports, technical data, specifications, requirements documents, computer programs or software, user manuals, drawings, or other products and data.

2.7. Subcontracting.

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy.

2.8. Animal or Human Testing Compliance.

The contractor is responsible for compliance with all laws and regulations governing the use of animals or human subjects in research projects.

2.8.1. Animal Testing.

Any contract resulting from this BAA that potentially involves the testing of animals shall include the following language.

> Any contractor performing research on warm blooded vertebrate animals shall comply with the Laboratory Animal Welfare Act of 1966, as amended, 7 U.S.C. §§ 2131 - 2156, and the regulations promulgated thereunder by the Secretary of Agriculture in 9 C.F.R. Parts 1 through 4, pertaining to the care, handling, and treatment of vertebrate animals held or used for research, teaching, or other activities supported by Federal contract awards. In addition, the contractor shall comply with the provisions of Department of Defense Directive 3216.1, as implemented by SECNAVINST 3900.38B, and DFARS clause 252.235-7002, "Animal Welfare," which is incorporated into this contract.

2.8.2. Human Subjects Testing.

The contractor shall remain in compliance with the regulations promulgated by the Office of the Secretary of Defense in 32 C.F.R. Part 219, pertaining to the protection of human subjects. In addition, the contractor shall comply with the provisions of Department of Defense Directive 3216.2. If human subjects are to be used at any time during the project, the contractor shall have a Federal assurance that is acceptable to CTTSO before involving human subjects. Additionally, the protocol shall be approved by a Federally-assured Institutional Review Board (IRB) office named in the institution's assurance. These documents shall be on file with CTTSO prior to the start of research involving human subjects. Collaborators with the contractor, to include IRBs, shall also comply with regulations to protect human subjects for both classified and unclassified research. Changes in the protocol or consent form shall be reported to the CTTSO Contracting Officer's Representative (COR) as they occur. Release of initial and follow-up funding shall be contingent upon initial and continuing reviews and to other IRB and component requirements.

3. PROPOSAL PREPARATION.

This section provides information and instructions for the preparation and submission of proposals under this BAA.

3.1. General Guidance.

All submittals must follow the instructions in this announcement including format, content, and structure as well as all specified information to avoid disqualification, submission rejection, or delays in evaluation.

3.1.1. BAA Information Delivery System (BIDS).

BIDS at www.bids.tswg.gov is used to provide public access to the BAA package, to collect all unclassified submittals, to collect all classified placeholder records for submission tracking as described below, and to provide notification of evaluation results back to the submitter.

3.1.1.1. Submitter Registration.

A BIDS submitter registration is required to respond to this BAA. Existing BIDS accounts are acceptable for a new BAA if the company contact information is the same or is corrected. During registration, the offeror must complete all mandatory fields on the form. The User Name is created by the offeror and is later used for BIDS login and submission tracking. Registration acceptance for submitters is automatic, but takes several seconds to be recognized by BIDS. A success email will be transmitted indicating that the User Name and account are accepted in BIDS. The registration email address is used for all official notifications and should be the offeror's contracting or business authority.

3.1.1.2. User Accounts and Password Resets.

Registration account information such as the point of contact (POC), email, and password can be updated after login. The **Forgot My Password** link on the BIDS Homepage allows registered users with a valid email address to automatically reset a password. The system will verify the account information and send a new password via email.

3.1.1.3. Registration and Account Help.

Help requests can be emailed to BIDS administrators at bidshelp@tswg.gov or submitted via the **Help Request** link located on the BIDS Homepage.

3.1.1.4. Format and Submittal Upload.

All unclassified and any classified placeholder responses shall be uploaded to BIDS in the electronic format specified and shall include all information requested for each submittal type as described in this document.

3.1.1.5. Header and Cover Page Information.

All Quad Chart submittals must include the applicable *BAA Announcement Number*, the *Document Identifier*, and *Proposal Title* in the header. Cover pages for all White Papers and Full Proposals must also contain this information. Samples of the Quad Chart layout and content as well as the cover page format are provided in BIDS under **Downloads, Reference Materials, Document Format**. A cover page is not required for Quad Charts.

3.1.1.6. Document Identifier.

The offeror shall insert a unique document identifier in the header of each submittal that must match the document identifier in the BIDS submission record.

Document identifiers are formatted as follows: **XX-REQTNO-USERNAME-SIT**

XX – Identifies the subgroup or mission area.
REQTNO – Identifies the requirement number.
USERNAME – Identifies the BIDS user name / submitter login name.
SIT – Identifies the Submitter Internal Tracking Number.

When creating a submission record in BIDS, the prefix (underlined in the example above) is automatically generated and precedes the **submitter internal tracking (SIT) number** which is **entered by the submitter**. The system enforces unique SIT numbers and ***will not allow*** the record to be saved if the SIT number has already been used.

3.1.1.7. Submitter Internal Tracking (SIT) Numbers.
The following formats are examples of SIT number entries. The numbers, if used, are any alphanumeric combination chosen by the submitter, and/or a suffix indicating the phase or document type (QC or 01, WP or 02, or FP or 03).

Quad Charts:	1234-QC	or	2222-01	or	QC01, QC02, …
White Papers:	1234-WP	or	2222-02	or	WP01, WP02, …
Full Proposals:	1234-FP	or	2222-03	or	FP01, FP02, …

3.1.2. BIDS Security and Access Control.
All data uploaded to BIDS is secure from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. The documents can only be reviewed by the registrant, authorized Government representatives, and specifically assigned evaluators with no conflict of interest.

3.1.3. Submittal Changes.
Changes to uploaded responses will be permitted **up to the closing date and time**. If a modification is required, update the original file, save, and convert to an acceptable format if applicable. In BIDS, open the submission record, click **Edit Submission** and update the record information. **Browse** to select the revised document. Select the checkbox to remove the old attachment. **Submit for Processing** to save the changes. Documents edited online through the BIDS web interface are not saved in BIDS. Changes to file names must be done prior to upload. To remove a submission from consideration, select **Delete Submission**. Changes after the requirement due date will not be permitted.

3.1.4. Special Handling Procedures for Classified Information.
If a submittal contains classified information, the offeror must first create a placeholder record in BIDS with an unclassified cover page attachment. Identify in the comments section of the submission record that the submittal cannot be uploaded due to classification. The BIDS tracking number must be clearly identified on the mailed submittal. **Classified responses (up to SECRET) must be appropriately and clearly marked (including all paragraphs and pages containing the subject data), packaged, and shipped in accordance with classified material handling procedures and security regulations pertaining to the level of classification.**

To obtain mailing instructions for classified submittals, email BAAsecurity@tswg.gov.

Classified submittals MUST be received by the applicable due date and time. Classification does not in any way eliminate the offeror's requirement to comply with all instructions in this BAA.

3.2. Phase 1 Submittals.
Offerors shall prepare and upload a one-page (8 ½ x 11 inch page) Quad Chart in response to Phase 1 of this BAA. If more than one page is submitted, only the first page will be evaluated. Quad Charts do not require a Cover Page.

3.2.1. Phase 1 Due Date and Time.
All UNCLASSIFIED Quad Charts must be received electronically through BIDS no later than **1600 (4:00 p.m.) Eastern Time (ET) on April 3, 2006.** Classified submittals must be received by the same due date and time. BIDS will not allow proposals to be uploaded, or modified, or classified placeholders to be entered after the closing date and time. **Any proposal, regardless of**

classification, submitted by any other means, or that is late <u>will not be considered</u> by the Government. Refer to the **Special Handling Procedures for Classified Information** in this document for instructions on classified submissions.

3.2.2. Electronic File Format.
The Quad Chart shall be submitted in Microsoft Office 2000 (Word or PowerPoint), or Adobe Acrobat (PDF – portable document format). The document must be print-capable, without password, and use text font and graphic formats that will cause the document file size to be no larger than 500 KB. Submittals that cannot be opened or viewed will not be considered. Compressed or ZIP files and other formats are not acceptable.

3.2.3. Quad Chart Content.
A Quad chart conveys the essence of the proposed solution for a single requirement. When preparing a submission, the offeror shall ensure that the specific criteria of the requirement are addressed. The Quad Chart includes a document header and four quadrants. A sample Quad Chart is provided at the BIDS website under **Downloads**, **Reference Materials, Document Format**.

3.2.3.1. Header Information.
Header information shall include the BAA Announcement number, the Document Identifier, and the Proposal Title. The date and company name should be included along with the appropriate document markings.

3.2.3.2. Top Left Quadrant, Graphical Depiction.
The top left quadrant is a graphical depiction, photograph, or artist's concept of the proposed solution or prototype. Include labels or brief descriptive text as needed for clarification. Ideally, this will convey the prototype concept, use, capability, and any relevant size or weight relationships based on the published requirement.

3.2.3.3. Top Right Quadrant, Operational and Performance Capabilities.
The top right quadrant contains the operational and performance capabilities summary. Describe any basic, new, or enhanced capabilities the system will provide to meet the published requirement. In bullet form, list key aspects of performance, capability, operational use, relevant software or hardware specifications, and planned interface and/or compatibility.

3.2.3.4. Bottom Left Quadrant, Technical Approach.
The bottom left quadrant contains the proposed technical approach. Specifically, describe the technology involved, how it will be used to solve the problem, actions done to date, and any related on-going efforts. Briefly describe the tasks to be performed for each phase. A bullet list is acceptable.

3.2.3.5. Bottom Right Quadrant, Cost and Schedule.
The bottom right quadrant contains the Rough Order of Magnitude (ROM) and Schedule, Products and Deliverables, and Corporate Contact Information. ROM and Schedule shall be proposed by phase and include the cost, period of performance (POP), and exit criteria for each phase. A total cost and POP that combines all phases shall also be included. Products and Deliverables shall include, by phase, a list of all prototype hardware and software along with the required data as described in **Product and Deliverable Requirements** in section 2 of this document. Corporate Contact Information shall include the submitter's company name, point of contact, address, phone number, and email address. Include any significant teaming partner (contact information) relevant to the evaluation.

3.2.4. Notification to Offeror.
The Government will notify the offeror when a submittal has been accepted or rejected. Notification of acceptance with a request to submit the Phase 2 document will be emailed to the offeror's

contracting authority as *entered in the BIDS registration* and will indicate the new submittal due date and time. Likewise, notifications of rejection will be emailed to the address provided in the BIDS registration. **Debriefings for Quad Charts will not be conducted due to the nature of BAAs**. In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, or do not fit the mission.

3.2.5. Status and Inquiries.
Phase 1 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries by phone concerning the status of Quad Charts will not be accepted. After login to the BIDS website, submitters are able to check the status of their submission(s) under **My Submissions.**

3.3. Phase 2 Submittals.
Offerors shall prepare and upload a twelve (12) page White Paper in response to Phase 2 of this BAA. All submittal pages shall be 8 ½ x 11 inch, **double-spaced** with fonts no smaller than 10 point; all margins shall be one inch. Each page of the submission shall contain the document identifier in the document header. If the White Paper contains more than 12 pages including tables, charts, and figures only the first 12 pages will be evaluated. All White Paper submissions must include a cover page. A cover page template is provided at the BIDS website under **Downloads, Reference Documents, Document Format**. Cover pages and clarification requests are excluded from the White Paper page count.

3.3.1. Phase 2 Due Date and Time.
All UNCLASSIFIED White Papers must be received electronically through BIDS **no later than the due date and time specified in the notification email**. Classified submittals must be received by the due date and time. BIDS will not allow proposals to be uploaded, or modified, or classified placeholders to be entered after the closing date and time. **Any proposal, regardless of classification, submitted by any other means, or that is late will not be considered by the Government.** Refer to the **Special Handling Procedures for Classified Information** in this document for instructions on classified submissions.

3.3.2. Phase 2 Document Upload.
To upload a next phase document, locate and open the accepted record in BIDS and select **Create Next Submission.**

3.3.3. Electronic File Format.
The White Paper shall be submitted in Microsoft Office 2000 (Word or PowerPoint), or Adobe Acrobat (PDF – portable document format). The document must be print-capable, without password, and use text font and graphic formats that will cause the document file size to be no larger than 500 KB. Submittals that cannot be opened or viewed will not be considered. Compressed or ZIP files and other formats are not acceptable.

3.3.4. White Paper Content.
In addition to the cover page, White Papers shall provide a description of the technical approach, the specific tasks and phases proposed, schedule and cost by phase, transition planning for production, a capability statement, and respond to requests for clarification received in the acceptance email. The following sections and details are required.

3.3.4.1. Technical Approach.
Describe the proposed solution relative to the requirement. Focus content on operational capabilities required to address the problem, the underlying theory that supports the operational capability, and suggested concept of operations. Identify end users that could be interested in the proposed solution and describe how the solution will be a benefit. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe if, and where, the proposed technology/solution has been, or is being, used. Identify sponsoring agency and

funding resources; if none, so state.

3.3.4.2. Tasks and Deliverables.
Identify the proposed tasks by phase in the order of occurrence. A phase must have a definable exit point with meaningful data for a decision to proceed. Identify work that will be performed by other organizations or agencies. Identify anticipated technical risks along with planned mitigation efforts. Indicate any Government furnished material (GFM), equipment (GFE), or information (GFI) that will be required with the task and need date; if none, so state. For each phase include the exit criteria and all products and deliverables as defined in **Product and Deliverable Requirements** in section 2 of this document. If a phase is proposed as an option; so state.

3.3.4.3. Schedule.
Develop a master project schedule preferably in Gantt chart format. The schedule should indicate the planned start and stop point for each phase with top level subordinate tasks, estimated delivery dates, and completion dates. Indicate the total project period of performance in months from start date, using January 2nd as notional, to the last completion date.

3.3.4.4. Cost.
Provide the proposed, task-phased budgetary estimate inclusive of any proposed options. At a minimum, this estimate shall detail estimated labor hours and costs, anticipated material costs and other costs (e.g., subcontracts, indirect rates, fee rate) for each task or phase. Costs allocated to other organizations (e.g., Government testing) shall be clearly shown; if none, so state. Changes in cost greater than 10% from those proposed in the Phase 1 (Quad Chart) submission shall be explained.

3.3.4.5. Intellectual Property, Technical Data and Software.
All anticipated intellectual property, technical data or software rights shall be disclosed.

3.3.4.5.1. Patents and Patent Applications.
Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide Patent number or application number and title. Any patent that resulted from prior government funding should be identified. If no patents or patent applications are relevant, so state.

3.3.4.5.2. Rights in Technical Data.
Identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7017 and DFARS 252.227-7028. If unlimited rights in technical data are proposed, so state.

3.3.4.6. Transition from Prototype to Production.
Describe the overall strategy to transition the results of this development effort to production once the funded effort is concluded. Briefly describe the overall strategy for transition, potential partners, transition issues to include any obvious regulatory, liability, interoperability, or financing issues. Discuss the interaction with representative users and the concept for test and evaluation by those users and follow on support of a product resulting from this effort.

3.3.4.7. Capability Statement.
Describe the offeror's capability and/or experience in doing this type of work. Identify technical team members or principal investigators and associated expertise. If applicable, include a description of co-participants' capabilities and/or experience. State whether an agreement has been reached with the co-participants.

3.3.4.8. Clarification Requests.
Clarification requests are included in acceptance email notifications. List, by number, on a separate page, the requested item(s) along with the associated responses even if the body of the White Paper includes or resolves the issue. Clarification response page(s) are excluded from the page count.

3.3.5. Notification to Offeror.
The Government will notify the offeror when a submittal has been accepted or rejected. Notification of acceptance with a request to submit the Phase 3 document will be emailed to the offeror's contracting authority as *entered in the BIDS registration* and will indicate the new submittal due date and time. Likewise, notifications of rejection will be emailed to the address provided in the BIDS registration. **Debriefings for White Papers will not be conducted due to the nature of BAAs**. In general, submissions are not considered for further review when they do not meet the basic requirement, are too costly, or do not fit the mission.

3.3.6. Status and Inquiries.
Phase 2 is complete when all submissions have been accepted or rejected in accordance with this BAA. Inquiries by phone concerning the status of White Paper submittals will not be accepted. After login to the BIDS website, submitters are able to check the status of their submission(s) under **My Submissions.**

3.4. Phase 3 Submittals.
Offerors shall prepare and upload a Full Proposal in response to Phase 3 of this BAA. To minimize the cost and effort for submitters, Phase 3, full proposals will only be requested for qualifying solutions that have a high probability of award; however, the Government reserves the right to cancel any proposal for this solicitation prior to award.

3.4.1. Phase 3 Due Date and Time.
All UNCLASSIFED Full Proposals must be received electronically through BIDS **no later than the due date and time specified in the notification email**. Classified submittals must be received by the same due date and time. BIDS will not allow proposals to be uploaded, or modified, or classified placeholders to be entered after the closing date and time. **Any proposal, regardless of classification, submitted by any other means, or that is late will not be considered by the Government.** Refer to the **Special Handling Procedures for Classified Information** in this document for instructions on classified submissions.

3.4.2. Phase 3 Document Upload.
To upload a next phase document, locate and open the accepted record in BIDS and select **Create Next Submission.**

3.4.3. Electronic File Format.
The proposal shall be submitted in Microsoft Office 2000 (Word, Excel, or PowerPoint), or Adobe Acrobat (PDF – portable document format). All documents must be print-capable, without password, and use text font and graphic formats that will cause the document file size to be no larger than 500 KB. Submittals that cannot be opened or viewed will not be considered. Compressed or ZIP files and other formats are not acceptable.

3.4.4. Full Proposal General Requirements.
Offerors shall prepare and upload a Full Proposal in response to Phase 3 of this BAA. Full Proposals shall consist of two major sections. The first section is the Technical Proposal and shall include all technical information related to the proposal as well as the business information required for contract award as requested in this document. All pages shall be 8 ½ x 11 inch, double-spaced with one-inch margins, fonts no smaller than 10 point, and must be printable, readable, and complete. The technical information shall not exceed 50 pages including figures, charts, and tables. The 50-page count excludes the Cover Page, the business information, and supporting data.

Second, the Cost Proposal shall include all cost information to support full evaluation of the effort proposed preferably in spreadsheet format with supporting documents. All pages shall be 8 ½ x 11 inch, with one-inch margins, fonts no smaller than 10 point, and must be printable, readable, and complete.

Each page of the submission shall contain the document identifier in the document header. If the Technical Proposal exceeds the 50-page limit, only the allowed pages will be evaluated. All paragraphs containing proprietary information must be clearly marked.

3.4.5. Cover Page

Full Proposal submissions must include a cover page. The cover page includes necessary contractual information including the offeror's contracting point of contact (name, telephone number, email address, facsimile number, mailing address) and business information (Data Universal Numbering System (DUNS) number, CCR, business type). Include the proposed contract type and the duration of all tasks. Refer to the cover page template provided at the **BIDS** website, **Downloads**, **Reference Materials**, **Document Format**. The 50-page count for the technical proposals excludes the cover page.

3.4.6. Full Proposal Technical Content.

Full Proposals shall provide a technically detailed solution of the problem addressed in the requirement and fully expand the technology proposed in the Phase 2 submission to include the following data.

3.4.6.1. Abstract.

The first page of the technical proposal shall include the proposal title and an abstract. The abstract shall describe the basic approach to satisfy the requirement and provide the scope of work to be performed for the entire period of performance inclusive of options. The abstract shall be no more than one page, stand-alone, and suitable for release under the Freedom of Information Act, 5 U.S.C. 552, as amended.

3.4.6.2. Executive Summary.

The executive summary shall include the overall solution and technology used. Include key information from the proposal that demonstrates how the requirement will be met.

3.4.6.3. Technical Approach

Describe the technical approach for the proposed solution to meet the requirement. Include technical details of the solution and fully expand the technology proposed in the Phase 2 submission. Include the methodology, underlying theory, system components, and operational scenario for the intended users. Include drawings, diagrams, charts, and tables needed to explain the effort. Describe relevant prior application of the proposed technology and/or solution, how it is being used, and by whom. Identify sponsoring agency and funding resources.

3.4.6.4. Project Plan

Describe the overall project and management plan to include the proposed tasks by phase and associated requirements. Include task phasing, deliverables, documentation, reports, exit criteria, schedule, cost summary, resources, and risk management.

3.4.6.4.1. Task Phasing.

Describe the proposed tasks by phase inclusive of optional phases. A phase must have a definable exit point with meaningful data for a decision to proceed. Describe the exit criteria for each phase. If a phase is proposed as an option, so state. Identify work that will be performed by other organizations or agencies.

3.4.6.4.2. Prototype Delivery and Documentation/Reports.
Describe all products, deliverables, documentation and reports as defined in **Product and Deliverable Requirements** in section 2 of this document. Identify the phase and anticipated schedule for delivery.

3.4.6.4.3. Schedule.
Develop a master project schedule preferably in Gantt chart format. The schedule should indicate the planned start and stop point for each phase with subordinate tasks, estimated delivery dates, and completion dates. Indicate the total project period of performance in months from start date using January 2nd as notional to the last completion date. Indicate any optional phases.

3.4.6.4.4. Cost Summary.
Provide a summary of the total cost for each phase. A table or other format is acceptable. Changes in cost greater than 10% from those proposed in the previous phase submission shall be explained.

3.4.6.4.5. Resources.
Identify the planned resources for the conduct of the proposed effort. Include personnel to perform the work proposed by the offeror and other organizations and activities, if applicable. Indicate if an agreement is in place for the resources.

3.4.6.4.6. Materials and Government Property.
Describe the anticipated materials and facilities requirements for the work proposed. Include any government furnished equipment (GFE), materials (GFM) or facilities required. Provide the schedule for all equipment, materials, or facilities as applicable. If none, so state. The proposal shall list any property or materials required to perform the proposed research, separating items to be acquired with contract funds and those to be furnished by the Government. When possible, the description or title and estimated or known unit and total costs of each item should be shown (i.e., manufacturer, catalog price, or previous purchase price). When such information on individual items is not available, the items should be grouped by class and estimated values indicated. In addition, the offeror shall include a statement as to why it is necessary to acquire the property with contract funds, and if applicable, express in writing his unwillingness or financial inability to acquire the items with his own resources. Please note that the FAR generally prohibits providing an industrial contractor with facilities (including plant equipment and real property) with a unit acquisition cost of less than $10,000.

3.4.6.4.7. Risk Assessment and Mitigation Plan
Identify anticipated technical and management risks along with planned mitigation efforts. Indicate the risk assessment as high, medium, and low.

3.4.6.5. Human Subjects and Animal Testing
The proposal shall provide a statement regarding the anticipated use of human subjects or animals in testing; if none, so state.

3.4.6.6. Environmental Impact.
The proposal shall provide a statement regarding the impact of the work proposed on the environment; if none, so state.

3.4.6.7. Intellectual Property, Technical Data and Software.
All anticipated intellectual property, technical data or software rights shall be disclosed.

3.4.6.7.1. Patents and Patent Applications.
Identify any existing, applied for, or pending patents that will be used in the conduct of this effort. Provide Patent number or application number and title. Any patent that resulted from prior government funding should be identified. If no patents or patent applications are relevant; so state.

3.4.6.7.2. Rights in Technical Data.
Identify any technical data and/or computer software that will be delivered with less than unlimited rights as prescribed in DFARS 252.227-7017 and DFARS 252.227-7028. If unlimited rights in technical data are proposed; so state.

3.4.6.8. Transition from Prototype to Production
Describe the approach and issues related to transition or commercialization of the results of this effort to an operationally suitable and affordable product for the intended users to include the following.

3.4.6.8.1. Transition Strategy
Provide the overall strategy for transition to production (licensing, partnering, or venturing) along with the associated timelines for actions associated with the transition. Describe the roles of current development partners, subcontractors, or other organizations that will be leveraged. If the offeror is not a commercial entity, indicate if a commercial partner has been identified. Discuss barriers to commercialization, such as anticipated regulatory issues (such as environmental, safety, health, and transportation), liability issues, interoperability, and financing, and planned steps to address these barriers.

3.4.6.8.2. Transition Approach
Describe the type and level of effort envisioned to take the technology from its state at the end of the development effort to a production ready, affordable, operationally suitable product. (size and/or weight reduction, packaging, environmental hardening, integration, additional test and certification). Provide an estimate of any costs to transition the prototype to low rate initial production. Provide the estimated production unit price for the end users.

3.4.6.8.3. Test and Evaluation
Describe the plan to involve representative users during the design and development process and the general plan for test and evaluation by representative end users.

3.4.6.8.4. Operational Support
Describe the estimated level of training needed to prepare users to utilize the product in an operational environment. Discuss the anticipated support concept such as level(s) of repair, spare parts, warranties, operation and maintenance technical manuals, simulators, and other logistics considerations.

3.4.6.9. Organizational Capability.
The proposal shall include a brief description of the offeror's organization. Describe the offeror's capability and/or experience in doing this type of work. If applicable, include a description of co-participants' capabilities and/or experience. State whether an agreement has been reached with the co-participants. Provide at least three references, to include points of contact, for like or similar work.

3.4.6.10. Classification and Security.
If the offeror is proposing to perform research in a classified area, indicate the level of classification of the research and the level of clearance of the potential principal investigator and all proposed personnel. The contractor shall include facility clearance information. Also,

the contractor shall indicate the Government agency that issued the clearances. If none or not required, so state.

3.4.6.11. Key Personnel.
The offeror shall provide the names of key technical personnel and principal investigator(s) including alternates and co-participants, if applicable. Include a brief biography, relevant expertise, and a list of recent publications for each.

3.4.6.12. Other Funding Sources.
The proposal shall provide the names of other federal, state, or local agencies, or other parties receiving the proposal and/or funding or potentially funding the proposed effort. If none, so state.

3.4.7. Clarification Requests.
Clarification requests are included in acceptance email notifications. List, by number, on a separate page, the requested item(s) along with the associated responses even if the body of the Full Proposal includes or resolves the issue. Clarification response page(s) are excluded from the page count.

3.4.8. Organizational Conflict of Interest.
The proposal shall identify any members of the organization with potential conflicts of interest. Possible conflicts of interest include any people with prior federal employment including employment of the principal investigator as a special Government employee (duties, agency with whom employed, dates of employment) within two years from the date of proposal submission. If none, so state. This information is excluded from the page count.

3.4.9. Subcontracting Plan.
If the total amount of the proposal exceeds $500,000 and the offeror is not a small business, the offeror shall submit a subcontracting plan for small business and small socially and economically disadvantaged business concerns. A mutually agreeable plan will be included in and made a part of the resultant contract. The contract cannot be executed unless the contracting officer determines that the plan provides the maximum practicable opportunity for small business and small disadvantaged business concerns to participate in the performance of the contract. This information is excluded from the page count.

3.4.10. Full Proposal Cost.
The offeror shall prepare and submit cost or pricing data, and supporting attachments in accordance with Table 15-2 of FAR 15.408. As soon as practicable after agreement on price, but before contract award, the offeror shall submit a Certificate of Current Cost or Pricing Data as prescribed by FAR 15.406-2.

3.4.10.1. Detail Cost Estimate.
Provide a detailed cost estimate by element of cost. Cost estimates shall be identifiable by task phasing proposed in the technical section and shall be inclusive of any proposed options. Include the offeror's fiscal year hourly rates where applicable. Cost breakdown shall include materials, direct labor, indirect costs, and other direct costs such as special test equipment or travel. Offerors shall provide documentation such as quotes and invoices necessary to substantiate the cost elements. The cost proposal must identify all cost-sharing and leveraging opportunities and the intellectual property expectations associated with that cost-sharing. Identify other sponsors, who have funded or are funding this offeror for the same or similar efforts, by agency, program manager name, phone number and email address.

3.4.10.2. Cost Breakdown.
A cost-element breakdown shall be attached for each proposed line item and must reflect all specific requirements. Supporting breakdowns must be furnished for each cost element,

consistent with the offeror's cost accounting system. When more than one contract line item is proposed, summary total amounts covering all line items must be furnished for each cost element. If agreement has been reached with Government representatives on the use of forward pricing rates/factors, identify the agreement. Based on the offeror's cost and pricing structure, the following basic cost element breakdowns shall be provided if applicable.

3.4.10.2.1. Materials.
Provide a consolidated price summary of individual material quantities included in the various tasks, orders, or contract line items being proposed and the basis for pricing (such as vendor quotes and invoices). Include new materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed, identify the item and show the source, quantity, and price. The offeror shall provide all data used for the basis for pricing upon request.

3.4.10.2.2. Competitive Methods.
For those acquisitions (e.g., subcontract, purchase orders, material orders) over $100,000 priced on a competitive basis, also provide data showing degree of competition and the basis for establishing the source and reasonableness of price. For inter-organizational transfers priced at other than cost of the comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (See FAR 31.205-26(e)).

3.4.10.2.3. Established Catalog or Market Prices/Prices Set By Law or Regulation.
When an exemption from the requirement to submit cost or pricing data is claimed, whether the item was produced by others or by the offeror, provide justification for the exemption.

3.4.10.2.4. Noncompetitive Methods.
For those acquisitions (e.g., subcontract, purchase orders, material orders) over $550,000 priced on a noncompetitive basis, provide certified cost or pricing data showing the basis for establishing the source and reasonableness of price. For standard commercial items fabricated by the offeror that are generally stocked in inventory, provide a separate cost breakdown if price is based on cost. For inter-organizational transfers priced at cost, provide a separate breakdown of cost by elements.

3.4.10.2.5. Direct Labor.
Provide a list of the applicable labor categories or positions showing a time phased (e.g., monthly, quarterly) breakdown of labor hours, rates, and cost by appropriate category, and furnish basis for estimates. Clearly indicate the offeror's fiscal year rate changes and associated labor rate escalation calculations as applicable.

3.4.10.2.6. Indirect Costs.
Indicate how offeror has computed and applied offeror's indirect costs. Indicate the rates used and provide an appropriate explanation.

3.4.10.2.7. Other Costs.
List all other costs not otherwise included in the categories described above (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework) and provide basis for pricing.

3.4.10.2.8. Royalties.
If more than $250 provide the following information on a separate page for each separate royalty or license fee:

- Name and Address of Licensor

- Date of the License Agreement (*See Note 1 below*.)
- Patent numbers, Patent Application Serial Numbers, or other basis on which the royalty is payable
- Brief description (including any part or model numbers of each contract item or component on which the royalty is payable)
- Percentage or dollar rate of royalty per unit
- Unit price of contract item
- Number of units
- Total dollar amount of royalties

Note 1: A copy of the current license agreement and identification of applicable claims of specific patents shall be provided upon request by the contracting officer. (See FAR 27.204 and 31.205.37.)

3.4.10.2.9. Facilities Capital Cost of Money.
When the offeror elects to claim facilities capital cost of money as an allowable cost, the offeror must submit Form CASB-CMF and show the calculation of the proposed amount. See FAR 31.205-10.

3.4.10.2.10. Fee.
Include the fee proposed for this effort. If, none, so state.

3.4.11. Notification to Offerors.
Notification of acceptance or rejection of a Phase 3 submission will be sent via email to the offeror's principal contact as entered in the BIDS registration. If the Government does not accept the Phase 3 proposal, the offeror may request a formal debriefing in accordance with FAR 15.5.

3.4.12. Status and Inquiries.
Phase 3 is complete when the Government concludes technical evaluations of all submittals and awards any contracts considered under this BAA. Inquiries by phone concerning the status of Full Proposal submittals will not be accepted. After login to the BIDS website, submitters are able to check the status of any submission under **My Submissions.**

4. PROPOSAL EVALUATION.

4.1. Objective.

The TSWG conducts rapid prototype development focused on critical multi-agency and future threat counter/anti-terrorism requirements. The primary TSWG mission is to conduct the National Interagency Research and Development (R&D) Program for combating terrorism through rapid research, development, and prototyping. This agency's program objectives are to provide an interagency forum to coordinate R&D requirements for combating terrorism, to sponsor R&D not otherwise being addressed by individual agencies, and to promote information transfer among the participating agencies.

4.2. Evaluation Criteria.

The criteria to be used to evaluate and select proposals for TSWG projects are described in the following paragraphs. Each proposal will be evaluated on its own merit and relevance to the TSWG program rather than against other proposals in the same general research area.

4.2.1. Basic Requirement.

The proposed solution must meet the letter and intent of the stated requirement; all elements within the proposal must exhibit a comprehensive understanding of the problem and the requirements of intended end users. The proposed solution must meet multiple TSWG user (U.S. Government or commercial) needs and be fully compliant with all elements of the solicitation including format, content, and structure as well as all BAA instructions.

4.2.2. Technical Performance.

The proposed technical approach must be feasible, achievable, complete, and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements are to be complete and in a logical sequence. All proposed deliverables must clearly define a final product that meets the requirement and can be expected as a result in the award. The proposal must identify and clearly define technical risks and planned mitigation efforts. Those risks and the associated mitigation must be defined, feasible and reasonable. The roles of the prime and other participants required must be clearly distinguished and pre-coordination with all participants (including Government facilities) fully documented. The requirement for and the anticipated use or integration of GFM including all equipment, facilities, and information, must be fully described including dates when such GFM will be required. Intellectual property ownership and the planned transition to production must be adequately addressed, including a support concept for the product described. Similar efforts completed by the offeror in this area must be fully described including identification of other Government sponsors.

4.2.3. Contractor Past Performance.

The offeror's past performance in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance requirements within the proposed budget and schedule. The proposed project team must have demonstrated expertise to manage the cost, schedule and technical aspects of the project.

4.2.4. Schedule.

The proposed schedule must be reasonable, achievable, and complete. The proposal must indicate that the offeror has fully analyzed the project's critical path and has addressed the resulting schedule risks.

4.2.5. Cost.

The proposed costs must be both reasonable for the work proposed and achievable. The proposal must document all anticipated costs including those of associate, participating organizations. The proposal must demonstrate that the offeror has fully analyzed budget requirements and addressed resulting cost risks. The proposal must indicate all cost-sharing and leveraging opportunities explored and identified and the intellectual property expectations associated with that cost-sharing. Other sponsors who have funded or are funding this offeror for the same or similar efforts must be identified by agency, program manager name, phone number and email address.

5. TECHNOLOGY DEVELOPMENT REQUIREMENT TARGETS AND OBJECTIVES.

TSWG is interested in soliciting proposals in the following areas of combating terrorism. The intent of this BAA is to identify technologies and approaches that provide near-, mid-, and long-term solutions that enhance the capabilities of the U.S. Government to combat or mitigate terrorism. The level of detail provided for each specific mission area requirement or the order in which requirements appear is not intended to convey any information regarding relative priority.

Chemical, Biological, Radiological, and Nuclear Countermeasures (CB)
Mission: Identify, prioritize, and execute research and development projects that satisfy Department of Defense (DoD), interagency, State, and local user requirements to counter the terrorist employment of improvised chemical, biological, radiological, and nuclear (CBRN) materials.

R2152 Risk-Based Material Permeation Criteria
Develop science- and risk-based recommendations for revision of the chemical protective material permeation criteria end points for toxic industrial chemicals (TICs). These TIC-specific recommendations will undergo rigorous peer-review and will be presented to the national consensus standards-setting organizations for personal protective equipment. Current consensus standards for protective ensembles used for emergency response to toxic industrial chemical terrorism incidents are presently set at an arbitrary level of 0.1 $\mu g/cm^2$/min for a breakthrough time of not less than sixty (60) minutes. This materials performance requirement was set nearly two decades ago and is not based on the dermal toxicity of the chemical or the actual exposure of individuals wearing protective ensembles. In contrast, the permeation resistance criteria for chemical warfare agents is based on maximum cumulative permeation through materials for a given time period. The analysis shall examine existing toxicological data, conduct an initial experimental effort, and then provide a prioritized list of critical data gaps that must be filled to support development and recommendation of new dose-based permeation end points for materials testing with TICs. The effort shall focus on the liquid toxic industrial chemicals acrolein, acrylonitrile, and dimethyl sulfate and on the gases ammonia and chlorine used in the NFPA 1994 standard.

R2153 Vehicle Retrofit for Mass Casualty Evacuation
Develop a capability to quickly transform various transportation conveyances, including school buses, transit buses, light rail, and passenger railroad coaches into evacuation vehicles for injured or special needs citizens following a large scale terrorist attack. System must provide for stretchers/litters and some seats, basic life support equipment, and space for minimal essential personal possessions for each passenger. There must be provisions for support staff to accompany passengers. System must be economical, safe, and readily installed and removed. Following a cost-benefit analysis, a training component shall be developed for desirable modes. The training shall include a parts list and instructions for configuring (and preconfiguring as necessary) a school bus, installing evacuation equipment upon need, removing equipment when no longer needed, and restoring the bus to its original configuration. The system may include optional GPS and voice/data communications packages. The system shall be designed and reviewed with input by an advisory group of stakeholders. In addition to one prototype system, the deliverables shall include functional requirements, technical requirements to meet safety standards and constraints, hardware design, estimated costs, a plan for transition to manufacturing, tests by stakeholders, and a training program.

R2160 On-line, Inexpensive Total Organic Carbon Detector
Develop a detection system that quantitatively responds to all types of organic carbon dissolved or suspended in water, including those without a chromophore. The system shall be used to detect the contamination of field water or domestic water supply systems with organic substances. The detector system must provide quantification within +/- 10% over a range of at least 0.1-1000 mg/L (as carbon) in non-chlorinated, chlorinated, and chloraminated potable and source waters. The system shall be capable of continuous unattended operation and report values every 2 minutes in a Supervisory Control and Data Acquisition (SCADA) compatible format. The system shall consume

no compressed gases. Reagentless and wasteless systems are preferred, although if there are any needed reagents and/or wastes, they shall be drain-disposable. The monthly cost of consumables shall be less than $100. The frequency of maintenance shall be no more than once a month and shall be capable of being performed by an unskilled individual with minimal training (<2 hrs). The in-production cost of the system shall be less than $5,000, with a preferred cost of less than $2,500. The system shall be man-portable, less than 50 cm on each edge, and powerable by AC and battery. While it is desirable that it do so, the detector need not be designed to meet all the performance requirements for regulatory compliance monitoring stipulated in EPA Method 415.3.

R2161 Estimate Waste Quantities from Cleanup of RDD Events

Produce a software tool to estimate the quantity of contaminated and uncontaminated waste/debris resulting from decontamination and clean-up activities after the detonation of a radiological dispersion device (RDD) in an urban, suburban, commercial, or industrial setting. The tool will be used by Federal, State, county, and industry leaders, emergency planners, regulators, and cleanup/restoration managers for cleanup cost estimation and disposal options analysis under varying assumptions, in both the planning and execution phases. The tool will take inputs from radionuclide dispersal models and blast effects models. The tool will also be able to manually accept input of contamination zones based on measurements. The tool will use a 3-D computer-aided design approach to describe the geographical areas of interest in terms of buildings, other infrastructure, and natural areas and where available will include the material/substrates involved. The tool will couple the overall area of contamination (either based on modeling or measurements) with available GIS, commercial satellite data, or user-defined parameters to develop an inventory of the actual buildings, structures, other urban/industrial elements, and land areas that would be potentially contaminated. From these inputs, the tool shall predict total contaminated surface area, by type of structure and/or material (e.g., total concrete contaminated; total road area, natural areas), total waste generated under varying pre-established decontamination assumptions, and generate quantitative waste profiles for types of materials or substrates involved. For structures that the user determines must be decontaminated, the user will select an appropriate technology. The tool will use information on existing radiological decontamination technologies and the predicted contaminated surface areas to determine the quantity (volume and mass) of contaminated and uncontaminated debris. The tool will also estimate the quantities of any byproduct materials generated as part of the decontamination process.

The tool will NOT perform dispersion modeling but must accept outputs from models such as HPAC (Hazard Prediction and Assessment Capability, DoD/DTRA), QUIC (Quick Urban and Industrial Complex, DOE/LANL), or similar to characterize the area of horizontal and vertical (3-D) contamination.

R000-CB Unspecified Requirement--Chemical, Biological, Radiological, and Nuclear Countermeasures

New or improved technologies or emerging technological capabilities pertaining to Chemical, Biological, Radiological, and Nuclear Countermeasures (CBRNC) that may be of interest to TSWG, but were not specifically requested in this BAA and are not commercially available. Future interests must be timely, relevant, and further the global war on terrorism. Medical applications (vaccines, pharmaceuticals, clinical diagnostics, and syndromic surveillance systems) and battlefield applications are not desired. These areas and other areas that do not directly relate to CBRN countermeasures will be rejected without consideration or comment. Areas of particular interest may include:

Personal protective equipment to include respiratory and percutaneous chemical, biological, or radiological protection (gloves, suits, or boots) that can be worn as part of the normal duty uniform or rapidly donned at the first sign of an incident. Equipment for law enforcement, emergency medical technicians, veterinarians, and public utility workers is of particular interest.

Unspecified requirements (R-000) are for proposing unique innovations that have not yet been identified by TSWG. Submissions against a particular subgroup's unspecified requirement may fall

under any aspect of that subgroup's mission. TSWG does not budget funds towards unspecified requirements. If TSWG evaluators determine that an unspecified requirement submission is promising enough to merit pursuing, funds may be identified at that point. Because proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may be unable to make any awards against the unspecified requirements.

Explosives Detection (ED)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements for existing and emerging technology in explosives detection and diagnostics. Emphasis is placed on a long-term, sustained approach leading to new and enhanced technology for detection and identification of improved explosive devices and large vehicle bombs.

R2126 Mobile Screening System (MSS) for Mail and Parcels

Develop a mail and parcel screening system in a large trailer (moving truck) for civilian and military facilities to replace or augment screening capabilities or respond to a temporary screening requirement.

Although primarily for mail and small parcels, the MSS should also be able to screen small carry-on luggage (i.e., backpacks, briefcases, purses).

The MSS must include all necessary systems for screening mail for explosives, radiological materials (including neutrons and gamma radiation), bioaerosols, firearms, other weapons, and contraband.

The MSS must include a rapid bioaerosol detection system for bacterial spores, bacterial vegetative cells, viruses, and toxins. The system shall sample the ambient air surrounding letters, commercial courier mail-like items, and small/moderate-sized packages up to 8 cubic feet in size.

The bioaerosol system shall detect the threat agents at levels of 100 particles per liter of air or less in under one minute in a background at or above 1,000,000 particles per liter of air. Nuisance alarms/false alarms must be minimized (less than one alarm per month desired). The total cost of reagents (development/production/storage/waste) shall be minimized. Reagents requiring refrigerated storage are not desired. The bioaerosol system shall be capable of continuous operation for periods of up to one month with no more than one-hour downtime for maintenance weekly.

Capability to screen for chemical threats is highly desirable. If this capability is not initially included, the design must allow for the inclusion of this capability at a later date. The MSS must also allow components to be upgraded or replaced as new technology emerges.

The MSS must have capability to isolate mail or parcels suspect for chemical, biological, radiological, and explosive threats until first responders can evaluate and make safe. The MSS shall be capable of being readily decontaminated after identification and removal of an identified threat item.

The MSS should incorporate a cabinet model conveyor belt x-ray technology system with a tunnel opening of approximately 30 inches by 30 inches and a throughput of approximately 300 inspections per hour. This MSS should incorporate a conveyor belt system to move screened items from the entry point through screening to the exit point. The MSS should have adequate working space for 3 to 5 persons and short-term storage space of screened items for delivery to the facility being secured.

The MSS shall meet all design requirements of the Supplement to 2000 International Building Code Special Detailed Requirements Based on Use and Occupancy for Mail Screening Facilities, with the exception that it be sized for the screening volume described above. The screening facility shall

consist of two rooms: the initial screening area and the secondary screening area for opening suspect mail. The initial screening area will be occupied when mail is delivered and screened. The secondary area will normally be unoccupied. This secondary screening area shall be accessed only through the initial screening area. The MSS shall be finished with seamless resilient flooring having sanitary radius cove at the intersection of the floor and walls.

Working space shall include temperature, humidity control, and other provisions for operation as an office-like environment (including lights, work stations for personnel, electrical and communication ports) in a full range of weather conditions. Size, weight, and power requirements shall be minimized. The system shall be rugged and capable of operation within one hour after setup of the trailer following transcontinental movement over interstate highways. The MSS must have onboard electrical generating capability sufficient for full operation with fuel storage for at least 24 hours of operation, as well as the capability to run on locally provided electric power, both within and outside the U.S.

R2157 Handheld Explosives Trace Detector with Advanced Vapor Phase Sampling
Develop a handheld explosives trace detector based on proven detection technology or adapt an existing detector to sample and detect picogram levels of both vapor and particles of explosives, either simultaneously or in a rapid sequential mode. The system shall include an advanced sampler for vapor and particle collection. Particle collection may use either contact or non-contact sampling; non-contact particle collection is preferred. The particle and vapor collection system may work in simultaneous or rapid sequential mode (delay between vapor and particle detection of no more than 5 seconds). The system must sample both vapors and particles (simultaneous or sequentially), within a combined time of 30 seconds or less. Simultaneous detection of vapor and particles is preferred.

The system must meet Transportation Security Administration certification levels for trace detection. If the system uses ion mobility spectroscopy (IMS) technology, a dual mode (positive and negative IMS) capability must exist with either simultaneous or sequential detection in each mode (switching between modes must not present a delay of more than two (2) seconds).

Surface sampling systems, whether contact or non-contact, must not harm or damage the surface of the item being screened. Optimization of sampling flow rates for both particle and vapor modes must be considered, evaluated, and demonstrated with the final prototype.

If the system utilizes thermal desorption of collected particles or vapor, a time-temperature desorption capability be used to provide optimum detection without thermal decomposition of the threat material. Any gas dopant used should be carefully matched to the thermal profile of the instrument.

The proposed system must be environmentally hardened for operation in severe environmental conditions, such as a temperature range of -20 to 140 degrees F and humidity from 20% to 95%. System must be resistant to and operable in momentary rain, wind, and sandstorms. The system must operate from battery power (minimum operation time on battery power of 4 hours) or AC power worldwide. Batteries shall be hot swappable. Total handheld system weight should not exceed seven (7) pounds. Target system cost should not exceed $30,000.

Prototype systems suitable for operational testing at a government facility by enlisted military or security screening personnel shall be delivered to the Government within 24 months after contract award. The awardees must perform full test and evaluation of their systems. Government testing is in addition to the offeror's own test and evaluation. If development time is planned to exceed 16 months, a full feasibility breadboard prototype should be provided within 12 months after contract award. At end of effort, a minimum of three (3) system prototypes must be provided.

Infrastructure Protection (IP)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements to provide technological solutions for the protection and assurance of critical Government, public, and private infrastructure systems required to maintain the national and economic security of the United States.

R2144 Process Control Systems (PCS) Security Metrics and Testing Guide

Develop a guide for PCS developers, owners and operators that identify appropriate metrics to measure security performance based on current research and development in academia, research labs, and industry. In conjunction with the PCS Security Metrics Guide, develop the accompanying PCS testing methodology that can be adopted by any PCS or component manufacturer. The methods developed to support enhanced security must be more cost-effective than generalized software testing approaches. The goal of the PCS Security Metrics Guide and Testing Methodology are to increase the security and robustness of installed legacy PCS and well as new PCS under development. The PCS security metrics and testing guide will consist of the following two components:

- Security Metrics – Provides guidance on what parameters to measure
- Testing Methodology – Provides guidance on how to make those measurements

R2145 Secure Software Engineering Guide and Tools

Design and develop implementation best practices guidelines, reviews methods, checklists, and associated software assessment tools that support organizational adoption of the Software Engineering Institute (SEI) developed Team Software Process for Secure Software Development (TSP-Secure). TSP-Secure are a set of defined and measured best practices for use by individual software developers and software development teams. The objectives of TSP-Secure are to reduce or eliminate software vulnerabilities that result from software design and implementation defects, and to provide the capability to predict the likelihood of latent vulnerabilities in delivered software. However, guidelines on how organizations and software development teams can effectively implement TSP-Secure are lacking. TSP-Secure is still under development at SEI, but an initial proof-of-concept pilot produced near defect free software with no security defects found during security audits and in several months of use. The Secure Software Engineering Guide and Tools will facilitate the implementation of TSP-Secure to assess overall software quality and to characterize defects according to their impact on the most significant quality attributes of software, such as security, safety, and reliability.

R2147 Automated Prediction, Attribution, Response and Recovery System

Develop a system to integrate the most current cyber security technology from the following areas with a focus on large-scale network-wide cyber attacks:

- Automatic prediction,
- Attribution (i.e., traceback)
- Response
- Recovery

The system will focus on large scale attacks (e.g., multiple attacks points or multiple industry sectors) and provide an automated and integrated application to identify undesirable or anomalous behavior, rather than predefined specific attack signatures. The system must identify behaviors of interest, develop appropriate models, develop self-learning statistical tools that automate the detection of a diverse spectrum of large scale attacks, and subsequently provide traceback and attribution of malicious cyber activity. The system must aid rapid recovery and reconstitution of compromised or damaged networks by other means than traditional backups and redundancy. System must demonstrate the ability to respond to zero day or previously unknown attacks. The system must correlate information across networks or autonomous systems to provide large scale situational awareness or attack detection capability. The system must provide traceback of a distributed attack back to the master or control computer, and not simply to hijacked “zombie” computers.

R2148 Simulated Evacuation Planning Tool
Develop a tool to evaluate civilian evacuation responses to multiple types of disasters and threats in order to develop evacuation strategies. The tool must simulate, in a real-time visual representation, the movement of crowds and vehicles in public locations. The simulated crowds will respond to external stimuli in a statistically accurate manner. Various attributes will guide individuals in the crowd while permitting participating users to control their response teams at a command level. The application will also model armed attacks and plume cloud dispersion. The application must run on a Windows laptop computer with a user friendly interface and operate at a high resolution that allows visual assessment of results. The system must also import and export standard data formats including AutoCAD to construct various civilian venues.

R2149 SCADA Cyber Attack Alert Tool
Develop a system to alert operators to the existence, nature, and extent of cyber attacks and report that information based on a standard set of attack definitions against geospatially distributed, resource limited, time-critical systems, such as supervisory control and data acquisition (SCADA) and process control systems (PCS). The system must be capable of monitoring primary and backup communications links (e.g., IP network, the telephone network, microwave, radio links, and leased lines). In addition to the cyber attacks found on the Internet today, the system will monitor for cyber attacks that are particular to the SCADA and PCS domain such as the listening to, forging, altering, and replaying messages, as well as introducing malicious software. A standard attack classification scheme will be developed, as well as a protocol for reporting attacks to both operators and those agencies combating terrorist attacks. The attack classification scheme will be published and include a detailed specification for how to detect and report attacks. The system must be tested on a SCADA test facility with existing commercial equipment as well as field tested on actual SCADA systems to demonstrate inoperability. The system will provide a means to aggregate and analyze reports of cyber attacks on SCADA resulting in the ability to identify and understand attacks as they develop. This system will be developed, from inception, with industry cooperation and input. The system will be designed to comply with existing data confidentiality, integrity, and availability standards and must integrate with legacy systems as well as new systems.

R2163 Transmission Tower and Line Security Monitor
Develop and field test an electrical power transmission line security monitoring system that is capable of detecting tampering with the towers supporting the electrical conductors in remote transmission line corridors. The transmission line monitoring system shall also be capable of detecting structural damage to towers and lines resulting from extreme natural disasters such as wind velocity, fire, and cold. Tampering is defined to be unbolting the tower from its mounting points, cutting the tower at its mounting and structural support points, shooting insulators, and other man made acts against the towers that will cause the transmission line to eventually fail. The system shall be capable of communicating the detected tampering information to an operator or other monitor in real time. Real time is defined to be within a few minutes (less than 5 minutes) after the initiation of a tampering event. The transmission line voltages can range from 138 to 500 kV operating at 50 or 60 Hz. Low voltage electrical power (120 VAC) and electronic communication infrastructure cannot be assumed to exist in the remote locations. The system shall not require routine maintenance, such as the periodic replacement of batteries. It shall be required to operate after the loss of transmission line power for a period long enough to transmit a tampering event message that caused the loss of power to the operator or other monitor. The system shall provide the capability to perform self testing and report failures. The life expectancy of the system shall be greater than 10 years.

Investigative Support and Forensics (IS)

Mission: Identify, prioritize, and execute research and development projects that satisfy interagency requirements for criminal investigation, law enforcement, and forensic science technology applications in terrorism related cases.

R2051 Steganography Decryption by Distributive Network Attack

Develop a distributive network analysis application that can detect, identify, and decrypt steganography in multiple types of files, including commonly used audio, video and graphic file formats.

The application must quickly and accurately detect and identify files containing steganography and extract the hidden messages and data from the file. Decryption of any messages or data encoded before the use of a steganography program is not required. The system must allow for easy, low-cost, frequent updating to counter new emerging programs. It must detect, extract, and decrypt messages in any file that has used any currently commercially available steganography programs as well as commonly encountered non-commercial programs. These would include, but are not limited to, the following: Covert.tcp; dc-Steganograph; EzStego; FFEncode; Gzsteg; Hide 4 PGP; Hide and Seek 4.1; Hide and Seek 5.0; Hide and Seek for Windows 95; jpeg-jsteg; Paranoid, Paranoid1.1.hqx.gz; PGE - Pretty Good Envelope; PGPn123; S-Tools : S-Tools 1.0 (Italy, Finland); S-Tools 2.0 (Italy, Finland); S-Tools 3.0 (Italy), Finland); S-Tools 4.0 (Italy, Finland); Scytale; Snow; Stealth, Stealth 2.01 ; Steganos 1.4; Steganos for Windows 95 and upgrade 1.0a; Stego by John Walker; Stego by Romana Machado; Stegodos; Texto; wbStego; WitnesSoft; and WNSTORM.

The application must be designed to use existing distributed network infrastructures with a standard hierarchical structure for application and job management (servers as controllers and any designated computers as clients). The application must be able to function as an independent application across a distributed network and be designed to seamlessly integrate with AccessData's Distributed Network Attack 3.0 or newer.

The application must be able to harness the unused processing power of up to 100 servers and 10,000 central processing units. The system shall have a master control management tool that can monitor tasks being performed and issue jobs to idle clients, while optimizing controller workloads, including the capability to pause an active job to issue a higher priority job, if necessary. The system shall have the ability to update all clients remotely from the supervisor(s) and/or master controller.

Any methods and procedures must be scientifically validated in conformance to evidentiary standards per Daubert v. Merrell Dow Pharmaceuticals Inc. [509 U.S. 579 (1993), 43 F3d 1311 (9th Circuit, 1995)] and the applicable Federal Rules of Evidence.

Cost per unit of the final product must be $10,000 or less.

R2121 Proficiency Testing For Forensic Document Examination

Design, develop, and conduct comprehensive testing and validation processes for questioned document examinations performed by forensic experts on natural handwriting and disguised writings seen in terrorist type investigations. The testing and validation processes must scientifically determine the error rates and performance of forensic document examiners (FDEs) and laypersons in identifying and excluding specific writers of naturally written and deliberately disguised handwriting and handprinting in documents found in terrorist type investigations. The tested laypersons must demographically represent those persons who serve on criminal trial juries. The analysis and testing must determine the effect of the context of the documents on the examination conclusions reached by the FDEs. The testing and validation must also determine the proficiency, reliability, and error rates of FDEs in identifying and excluding the source of faxed documents which include the fax header. The processes must be consistent with the accepted and established professional practices and procedures performed by FDEs.

The testing and validation processes must meet all of the legal and admissibility standards of Daubert v. Merrell Dow Pharmaceuticals Inc., 509 U.S. 579 (1993), 43 F3d 1311 (9th Circuit, 1995), and the Federal Rules of Evidence. The final report must be sufficient for a judicial determination of all performed analyses during a Daubert/Kumho admissibility hearing. The deliverables shall include written reports, including peer-reviewed journal manuscripts on methodology, tests, summary of data, data samples, results, statistical tests, conclusions, and findings; and presentations of results at technical meetings.

R2122 Data Stream Profiling
Develop a software tool to automate the collection and analysis of text and data streams from various sources/platforms using a simple user interface for non-expert users to deploy and operate. The software must be an easy-to-use tool that develops profiles based on indicators and statistics from message streams of text and data generated by chat rooms, peer-to-peer networks, and instant messaging tools. The tool must run in the background, and if key words or profile matches are found, it must alert the agency employing the tool. This software must be capable of analyzing data streams and developing characteristic profiles based on word use, typing cadence and other indicators. This software will enable law enforcement to electronically fingerprint an individual based on data streams and use this fingerprint to compare future data streams to determine if the data are being generated by the same individual. The tool must be unclassified so as to be of use to the majority of U.S. Law Enforcement.

R2123 Clock Skew Fingerprints
Develop software that will capture a fingerprint of a targeted computer based on variations (skew) in the computer's clock. A clock skew fingerprint may also be recovered from a destroyed hard drive. The software must be able to determine if a computer is a real physical device, or developed by a virtual machine. The software must enable database collection of computer clock skew fingerprints. The software must automate the collection and analysis of computer fingerprints generated by clock skew variations using Transmission Control Protocol and Internet Control Message Protocol timestamps. The tool must work both actively and passively (lowering the risk of the target determining they have been fingerprinted). The application must be capable of collecting and analyzing large numbers (millions) of computer clock skew fingerprints. The software must contain a user-friendly interface for non-experts.

R2124 Forensic Audio Spectral Analysis Suite
Design and develop a flexible, interactive GUI-driven software application capable of performing detailed spectral analysis on digitized audio information. The application must perform all basic textbook signal processing functions including: Fast Fourier Transform, highpass, lowpass, bandpass, bandstop, notch, comb, reference cancellation, narrowband and wideband adaptive filters, cross-correlation, covariance, Z-transforms, and Hilbert transforms. In addition, the ability to perform more complex filter-design and voiced signal characterization functions must be supported including the ability to perform transfer function measurements, backward and forward processing of data equivalent to a specified far infrared, imaging infrared filter, or analog (Butterworth, Chebyshev, Elliptic) filter, spectral estimation with complete control over parameters such as window type, size, overlap, display color map, pitch-corrected rate changing, model-based measurements of speech energy and audio channel characteristics (Cepstral, Linear Predictive Coding), random process models such as hidden Markov models, phoneme identification, computation and display of speech formant frequencies and pitch contours including discrimination of voiced and unvoiced vocal sound energy.

Specialized functions will be required permitting the discrimination and tracking of multiple narrowband tones for the calculation and documentation of engine rotation speeds, and for the statistical comparison of an arbitrary waveform with a reference waveform to aid in the objective characterization and identification of unknown sounds. The application must be driven by an intuitive graphical user interface allowing the selection and chaining of existing audio processing functions to enable the construction of more complex functions such as detection and demodulation. Provisions must be made for the linking of C or MATLAB code in order to add new functions to the

existing library. The application must display simultaneous time and frequency domain depictions (spectrogram and waterfall display) of the data being analyzed, with provision for cursor-based data selection and parameter measurement. The user must be able to easily browse lengthy signal files; zoom in and out, rescale, select, cut and copy regions, target processing to selected regions, and attach text labels to arbitrary regions in the display. The ability to capture analog audio information is not required, but may be considered a desirable feature for some users.

The application must run on a suitably powerful Windows (2000 or above) compatible computer and be capable of reading and saving audio data in standard sound-file formats. Processed data must be exportable for post-processing using other software applications such as MS Excel or MATLAB. Measurement products such as spectrograms, formant tracks, and pitch contours must be printable and savable in standard file formats capable of being read and manipulated for inclusion in a presentation or report.

R2125 Compact Tactical Forensic Collection Kit
Develop a lightweight, portable (under 25 lbs.), modular Tactical Forensic Collection Kit for use in sensitive site exploitation. The kit must have the ability to be rapidly employed under extreme conditions and environments. The kit must be user friendly with a minimum of physical controls. The kit must be interoperable with all current and adaptable to future communication and computer systems organic to Special Forces (SF) Units. The kit must operate on existing DoD battery power such as BA 5590s and have the ability to connect to organic SF vehicles 24 volts DC (i.e., cigarette lighter). The kit must have the ability to quickly extract forensic data (physical and digital) and use plug-and-play peripherals. The base apparatus for the kit must be a small form factor computer which will be the central station to which the other devices will connect. The kit must be comprised of as many of the following components as possible, and integrated into a portable form factor. Integration of COTS equipment is encouraged.

1. Compact, rugged, Windows-based computer (Windows 2000 or higher) with integrated GPS, integrated digital camera, integrated iris camera, audio in/out and support for common wireless communications.
2. Modular fingerprint sensor capable of capturing rolls and slaps that meets all standards for biometrics data capture and transmission.
3. Digital mobile phone forensics extraction, capable of gathering information from all wireless phones, including Thuraya/satellite phones.
4. Digital hard drive forensics to extract, download, copy, translate and analyze data from computers and PDAs.
5. Extracting latent fingerprints from weapons, bomb making material, shrapnel and bomb fragmentations.
6. Scan and translate handwritten and typed documents in various languages.
7. DNA retrieval/storage and local analysis.
8. Gunshot/Explosives residue analysis and detection.
9. Nuclear/Biological/Chemical (NBC) agent detection and identification.

R000-IS Unspecified Requirement
New, advanced, improved, or emerging technologies or capabilities pertaining to Investigative Support and Forensics that may be of interest to TSWG, but were not specifically requested in this BAA and are not commercially available. Any proposals must be timely, relevant, further the global war on terrorism, and may include:

Computer Investigative Technologies. More inclusive and technically advanced detection, identification, and extraction of easily perishable or temporary data of computer and automated systems, especially those relating to email traffic, the internet, LANs, and unauthorized penetration of these systems. Proposals must be outside the realm of data mining. Any proposed tool or technique must be able to function in the physical environment in which terrorism occurs and (where appropriate) be compatible with existing hardware and software platforms. Proposals should be non-proprietary.

General Investigative and Forensic Science Technologies. Faster, more reliable, more widely applicable, more rugged, less costly, or less labor-intensive tools for identification, collection, preservation, or analysis of evidence from improvised explosive devices (pre-incident), from mass casualty crimes, or other post-incident terrorism scenes. This may include advanced technologies to identify, qualify, and quantify post-blast materials and evidence. Consideration will be given to proposals relating to the development of miniaturized or portable forensic testing devices.

Crime Scene Reconstruction and Modeling. New automated tools for reconstructing or creating a model of a terrorist crime scene, especially large and complicated scenarios or post-blast scenes.

Forensic DNA. Advanced tools and technologies that will allow faster, more reliable, more powerful, less costly, or less labor-intensive identification, collection, preservation, or analysis of terrorism-related DNA evidence. Proposals to develop miniaturized or portable tools for forensic DNA testing will be given priority. Additionally, identification and/or characterization of genetic marker systems that reveal additional or more powerful information, or investigative leads, about the donor of biological evidence are desired.

Surveillance Technology. Advanced or novel technological capabilities for tracking and locating terrorists and their movements, especially clandestine video surveillance and speech recognition or voice identification. Any proposed tool or technique must function in the physical environment in which terrorism occurs. This may include radio frequency and non-radio frequency technology. Proposals should be nonproprietary and unclassified.

Unspecified requirements (R-000) are for proposing unique innovations that have not yet been identified by TSWG. TSWG does not budget funds towards unspecified requirements. If TSWG evaluators determine an unspecified requirement submission is sufficiently promising to merit pursuing, funds may be identified at that point. Since proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may not make any awards against the unspecified requirements. Proposals pertaining to data mining; report writing; data compilation; detection of concealed bombs, explosives, or weapons; intrusion detection or access control; or any strictly physical security measure should not be submitted. These areas are either not desired or are the responsibility of other subgroups or agencies and will be rejected without consideration.

Physical Security (PS)

Mission: Identify, prioritize, and execute research and development testing, evaluation, and commercialization efforts that satisfy interagency requirements for physical security technology to protect personnel, vital equipment, and facilities against terrorist activity.

R1023 Disassembled Weapon/Bomb Component Detection System

Develop the capability to detect the presence of small firearms and bombs, disassembled into their component parts, inside hand-carried items being x-rayed. The requested capability should improve upon common, currently-deployed, x-ray systems which are used at government facilities and entry points onto various transportation modes. The system should provide immediate on-screen notification to the screener as to where detected suspect objects are located in the hand-carried item, what component they might be (minimum requirement), and what weapon they can form when assembled (desirable requirement). Capability will be to detect separated weapon or bomb components in same hand-carried item, as well as components distributed between separate hand-carried items accompanying the same individual (minimum requirement); and, possibly among those carried by other individuals scanned within a defined period of time, such as within two (2) hours, entering the same security area (desirable requirement). Deliverables include: a near-production ready prototype; monthly reports; program reviews, including a detailed PDR and CDR covering the design and commercialization efforts; a demonstration and training session for Government personnel (2 to 3 days); and support during testing at a Government designated facility (30 to 60 days). The program shall have defined phases with clear deliverables, test procedures,

and exit criteria; and it could have optional phases for expansion, integration, or improved capabilities. Manufacturers or developers with an existing capability for meeting this requirement should also submit a quad chart, and be able to demonstrate their systems capability at a test site within 90 days of notification.

R2186 Remotely-Operated, Protected Weapon System
Design, develop, test, and commercialize a remotely-operated, protected, weapon system suitable for fixed sites, capable of surviving multiple rounds (at least 3 hits) of .50 caliber armor piercing ammunition. Submissions shall also identify, as an option, the additional armor that could be added onto the above system to survive a single shot from a shoulder-fired rocket/RPG7 armor-piercing round. The weapon mount shall be capable of 360 degrees of horizontal movement and elevation changes to permit engagements at the maximum effective range of the weapon. The initial design shall use a .50 caliber automatic weapon, but is intended to be scalable, and with minimal design changes, to accept a variety of weapons such as 7.62 mm, 5.56 mm, and other machine guns, and rapid fire weapons with a capability of firing 1000 rounds per minute or greater (e.g., a minigun) with their associated ammunition storage and feed demands. The weapon system and its controls must be secure from physical, high-intensity electro-magnetic radiation, or cyber attacks; highly reliable; not easily interrupted; safe to operate; immune to environmental conditions (e.g., lightning, freezing rain, snow, hot/cold weather, radio frequency signal interference); operable in all types of terrain (e.g., desert, high elevations, shoreline); provide assisted targeting in day and night conditions; and must network with other remotely-operated weapons systems, and command and control systems, via open architecture. The weapon system shall be a self-contained unit, designed to be transported and emplaced by forklift and/or crane, and can take advantage of external protection (e.g., bunkers, barriers) to protect the non-exposed portions. Deliverables include: a near-production ready prototype system with an integrated .50 caliber automatic weapon; monthly reports; program reviews including a detailed PDR and CDR covering the design and commercialization efforts; a demonstration and training session for Government personnel (2 to 3 days); and support during testing at a Government selected facility (30 to 60 days). The program should have defined phases with clear deliverables, test procedures, and exit criteria; and it could have optional phases for integration with security sensors (e.g., radar, IR cameras), improved penetration resistance capabilities (e.g., an RPG7 attack), and/or the adaptation to other types or calibers of on-board weapons.

R2187 Protective Barriers with Integrated Intruder Detection System
Design, develop, demonstrate, and commercialize a low-cost blast/ballistic barrier and intrusion detection system for critical assets at electrical substations (e.g., transformers, breakers, reactor banks, switch gear, control houses). The blast/ballistic protection shall mitigate the effects of high-power rifle shots fired approximately 50 yards from the barrier, and of approximately 100 pounds of C4 placed in close proximity to the protective barrier (approximately 10 feet). For cost effectiveness, the protective barrier should be installed around the protected asset, or a closely grouped set of protected assets, and not around a very large outer perimeter. The intrusion detection and assessment system shall provide coverage around the protected asset and early detection of intruders out to at least the outer perimeter of the site, and communicate an alarm and associated video pictures/clips securely and wirelessly to a remote monitoring station. The detection systems shall include integrated, distributed sensors for classifying and reporting the nature of the threat, and shall support a broad range of standardized configurations for protecting a variety of infrastructure assets. The system shall operate 24/7 in 500 Kv environments, in remote locations, and in all weather conditions. The intrusion detection system shall be powered separately from available site power, in the event of power failure/sabotage, using long-life batteries (greater than 10 years, preferably), renewable energy sources, or a combination thereof. The system design shall accommodate ease of inspections and repair/restoration by trained utility or security-vendor field crews. The overall protective system must be affordable for commercial energy companies, in the approximate price range of $100K to $200K per site (approximately 200 by 200 yards.). Deliverables include: a near-production ready prototype; monthly reports; program reviews including a detailed PDR and CDR covering the design and commercialization efforts; data for life expectancy under extreme environmental conditions; a demonstration and training session for Government

personnel (2 to 3 days); and support during testing at a Government selected facility (30 to 60 days). The program shall have defined phases with clear deliverables, test procedures, and exit criteria; and it could have optional phases for expansion, integration, or improved capabilities.

R2188 Intelligent Video Object Recognition System
Design, develop, and demonstrate an intelligent video object recognition system capable of identifying vehicles or objects (e.g., people) meeting predetermined criteria, and tracking them throughout a security zone. The system shall continue to recognize the selected vehicle or object as it passes from one camera view to another, whether contiguous or not. The system shall provide an alarm to the operator, and continue to track the alarming object until the operator clears the alarm. The system shall not provide additional alarms for the same object as it passes from one camera view to another, unless an additional user-defined alarm condition occurs (approaching or crossing into a no-entry area, stopping longer than a predetermined time, traveling in the wrong direction or in a restricted lane). Ideally, this hardware and software system shall interface with other security command and control systems and architectures. Initial developmental efforts shall focus on a stand-alone system with a user-friendly GUI operating on a Windows-based PC workstation that may include multiple screens for viewing multiple alarms - - not one video monitor per camera. The initial prototype system shall be able to accept inputs from 75 cameras, covering a four square mile area of urban terrain, but the design must be expandable to include hundreds of cameras and to cover campus-type areas, government installations, military bases, or cities. The system shall have the ability to store and retrieve all data required for vehicle identification for 14 days, and permanently store all alarm events using removable media. The system shall be able to recognize vehicles if they pass out of the security area and re-enter within the 14 day window of stored data (desired capability). Deliverables shall include a prototype system; monthly reports; program reviews including a PDR and CDR covering the design logic, system capabilities and commercialization; a government-approved test plan; a demonstration and training period (2 to 3 days); and support for a 30-day user test program. The program shall have defined phases with clear deliverables and exit criteria, with the initial deliverable focused on vehicles. The contractor may propose optional phases for expansion, integration with other security sensors and system architectures, or improved capabilities such as the identification and tracking of other objects. Manufacturers or developers with an existing capability for meeting this requirement should also submit a quad chart, and be able to demonstrate their systems capability at a test site within 90 days of notification.

R-000-PS Unspecified Requirement
Submit under this requirement number and title any new (or improved) technologies or emerging technological capabilities pertaining to the field of physical security, which the vendor believes would interest TSWG, but may not have been specifically requested in this BAA. The technological areas of interest are: (1) entry point screening and access control; and, (2) intruder detection, assessment, delay, and response. Entry point screening technologies and techniques are those that detect attempts of unauthorized access and/or the insertion of prohibited items (e.g., weapons, explosives) into secure areas. Intruder detection, assessment, delay, and response technologies are those that provide increased terrorist intrusion detection, alarm assessment, adversary delay, and response by security personnel throughout a secured area, at the outer perimeter, and beyond the perimeter for early warning.

The emerging technologies of interest include, but are not limited to, new/innovative technologies for:
- Intrusion-detection sensors and/or intelligent day/night/IR video alarm systems, with significantly higher probabilities of detection and lower false alarm and nuisance alarm rates
- Intruder detection, categorization, and tracking
- Low cost, expandable, command and control systems, integrating or fusing data from multiple sensors, including different sensor technologies, for providing security situational awareness around and within secure sites of varying size and terrain
- Active countermeasures/barriers to prevent or delay adversary intrusions
- Secure communications systems for use during emergency response capable of communicating

across multiple first-responder communications systems
- High-throughput, integrated, multi-sensor, multi-technology screening systems including personnel, hand-carried items, vehicles, and cargo, for the detection of multiple threat items or materials (e.g., weapons, explosive devices, chemical agents, radioactive material) using proven screening and detection technologies -- i.e., not requiring research and development on the technologies to be integrated.

This requirement does not include technologies such as:
- Protection from computer network attacks
- Chemical, Biological, Radiological, or Explosive material detectors or sensors, other than for the "integrated screening system" described above
- Blast mitigation
- Commercially available products, other than for the "integrated screening system" described above

Unspecified requirements (R-000) are for proposing unique innovations that have not yet been identified by TSWG. Submissions against a particular subgroup unspecified requirement may fall under any aspect of that subgroup mission. TSWG does not budget funds towards unspecified requirements. If TSWG evaluators determine that an unspecified requirement submission is promising enough to merit pursuing, funds may be identified at that point. Because proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may be unable to make any awards against the unspecified requirements.

ATTACHMENT A – ACRONYMS AND ABBREVIATIONS

µg	micrograms
24/7	Twenty-four hours/Seven days per week
3-D	Three-Dimensional
AC	Alternating Current
ACLS	Advanced Cardiac Life Support
ADL	Advanced Distributed Learning
AFIS	Automated Fingerprint Information System
ANSI	American National Standards Institute
ATLS	Advanced Trauma Life Support
ATP	Active Thermal Protection
BAA	Broad Agency Announcement
BIDS	BAA Information Delivery System
BX	Blast Effects and Mitigation (mission area/subgroup designation)
C	Celsius
C4	Composition 4 explosive
CAD	Computer Aided Drawing
CASB-CMF	Cost Accounting Standards (CAS) Board - Cost of Money Factors
CB	Chemical, Biological, Radiological, and Nuclear Countermeasures (Also CBRNC or CBRN or CBR) (mission area/subgroup designation)
CCD	Charge-Coupled Device
CCR	Central Contractor Registration
CCTL	Common Criteria Testing Labs
CD	Compact Disk
CDC	Center for Disease Control
CDR	Critical Design Review
C.F.R.	Code of Federal Regulations
cm	centimeter
COFDM	Coded Orthogonal Frequency Division Multiplexing
COR	Contracting Officer's Representative
COTS	Commercial-off-the-shelf
CPFF	Cost Plus Fixed Fee
CQB/SWAT	Close Quarter Battle/Special Weapons Assault Team
CTTSO	Combating Terrorism Technology Support Office
DAIS	Digital Automotive Image System
DC	Direct Current
DFARS	Defense Federal Acquisition Regulation Supplement
DHS	Department of Homeland Security
DNA	Deoxyribonucleic acid
DoD	Department of Defense
DOE	Department of Energy
DPI	Dots per inch
DTRA	Defense Threat Reduction Agency
DUNS	Data Universal Numbering System
ED	Explosives Detection (mission area/subgroup designation)
EL	Explosive Ordnance Disposal/Low-Intensity Conflict (Also EOD/LIC) (mission area/subgroup designation)
EOD/SOF	Explosive Ordnance Disposal/Special Operations Forces
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines
ET	Eastern Time
ET-SCBA	Expedient Tactical - Self-Contained Breathing Apparatus
F	Fahrenheit
FAQ	Frequently Asked Question
FAR	Federal Acquisition Regulation
FCCM	Facilities Capital Cost of Money
FDA	Food and Drug Administration
FDE	Forensic Document Examiner
FDR	Flight Data Recorder
FFT	Fast Fourier Transform
FOIA	Freedom of Information Act
FORAX	Fiber Optic Remote Amplifier Extension
FP	Full Proposal
fps	Feet per second
FSW	Feet of Sea Water
ft	Feet
FY	Fiscal Year
G/T	Gain to Noise
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GFM	Government Furnished Material
GIF	Graphics Interchange Format
GIS	Geographic Information System
GOTS	Government-off-the-shelf
GPS	Global Positioning System
GUI	Graphical User Interface
HBCU	Historically Black Colleges and Universities
He	Helium
HPAC	Hazard Protection and Assessment Capability
HUB Zone	Historically Underutilized Business Zone
HUD	Head's Up Display
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz

IDD	Improvised Device Defeat (mission area/subgroup designation)
IDHL	Immediately Dangerous to Health or Life
IED	Improvised Explosive Device
IMS	Ion Mobility Spectrum
IP	Infrastructure Protection (mission area/subgroup designation)
IR	Infrared
IRB	Institutional Review Board
IRIG	Inter-Range Instrumentation Group
IS	Investigative Support and Forensics (Also ISF) (mission area/subgroup designation)
JPEG	Joint Photographic Experts Group
K	Thousand
KB	Kilobyte
kg	Kilograms
kV	Kilovolt
L	Liter
LANL	Los Alamos National Laboratory
Lbs	Pounds
LIC	Low-Intensity Conflict
LOS	Line of Sight
LVB	Large Vehicle Bomb(s)
MANPADS	Man Portable Air Defense System
MB	Megabyte
mg/L	milligram per liter
MHz	Megahertz
MI	Minority Institutions
mm	millimeter
MOA	Minute of angle
MSR	Monthly Status Report
MSS	Mobile Screening System
NAICS	North American Industry Classification System
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, and Chemical
NCID	National Critical Infrastructure Database
NFPA	National Fire Protection Association
NGEODRCV	Next Generation Explosive Ordnance Disposal Remote Controlled Vehicle
NIST	National Institute of Standards
OA	Operational Analysis
ORCA	Online Representations and Certifications Application
OS	Operating System
OSHA	Occupational Safety and Hazard Association
PC	Personal Computer
PCB	Printed Circuit Board
PCS	Process Control System
PDA	Personal Digital Assistant
PDF	Portable Document Format
PDR	Preliminary Design Review
PETN	pentaerythritol tetranitrate
PL	Public Law
POC	Point of Contact
POP	Period of Performance
POTS	Plain Old Telephone Service
PPE	Personal Protective Equipment
PS	Physical Security (mission area/subgroup designation)
PSTN	Public Switched Telephone Network
PSYOPS	Psychological Operations
QC	Quad Chart
QUIC	Quick Urban and Industrial Complex
R&D	Research and Development
Rad	Radians
RAM	Random Access Memory
RAMP	Remote Multi-band Amplifier
RCV	Remote Controlled Vehicle
RDD	Radiological Dispersion Device
RDX	Cyclotrimethylenetrinitramine
RF	Radio Frequency
RFID	Radio Frequency Identification
RH	Relative Humidity
ROM	Rough Order of Magnitude
RPG	Rocket Propelled Grenade
RT	Receiver/Transmitters
SBA	Small Business Administration
SCADA	Supervisory Control and Data Acquisition
SCBA	Self-Contained Breathing Apparatus
SCORM	Shareable Content Object Reference Model
SECNAVINST	Secretary of the Navy Instruction
SEI	Software Engineering Institute
SDB	Small Disadvantaged Business
SF	Special Forces; also Standard Form
SIT	Submitter Internal Tracking (Number)
SNM	Special Nuclear Material
SOF	Special Operating Forces
SOW	Statement of Work
SP	Special Projects (mission area/subgroup designation)
SVGA	Super Video Graphics Array
SWAT	Special Weapons Assault Team
TIC	Toxic Industrial Chemical
TIM	Toxic Industrial Material
TOS	Tactical Operations Support (mission area/subgroup designation)
TSP-Secure	Team Software Process for Secure

	Software Development
TSWG	Technical Support Working Group
TTD	Training Technology Development (mission area/subgroup designation)
TTL	Tagging, Tracking, and Locating
UAV	Unmanned Air Vehicle
UML	Universal Modeling Language
USB	Universal Serial Bus
U.S.C.	United States Code
VAC	Volts AC (alternating current)
VBIEDs	Vehicle Borne Improvised Explosive Devices
VIP	Very Important Person
VIP	VIP Protection (mission area/subgroup designation – formerly Personnel Protection(PP))
VCSTC	Virtual Cyber Security Testing Capability
WP	White Paper
XML	Extensible Markup Language